

January 12, 2009

Dear Mr. Chairman and Committee Members.

World energy supplies and controversy over oil has precipitated national support for developing alternative energy sources. Federally funded grants and subsidies at tax payer expense largely determine which of the energy producing alternatives are being pursued and developed.

Initially money flowed into the cornbelt to finance methanol plants with increased markets for corn. However livestock feeders soon felt the competition. Corn production energy costs were outweighing the fuel production benefits. Valuable, productive farmland was tied up in methanol production in place of food, while food costs rose and food shortages developed throughout our country and the world. It is questionable that this was either a practical or economically viable solution to the energy problem. Where is the research that supported this government project?

Now Gov. Schweitzer is talking of a wind machine manufacturing plant, and a \$7 billion world class coal-to-liquid plant, both certainly requiring vast amounts of federal funding. We need to look at the feasibility studies in support of these types of federal investments. Is wind really practical? What is the payback time on plant investment and operational costs in comparison to revenues?

Our federal forests are fast becoming basically fuel as trees die from overgrowth, density and bug infestation. Montana has one the largest number of acres of federal forests of any of the states. They are fire prone, hazardous to health and a detriment to the environment, wildlife and humans. The annual growth rate is far beyond levels of harvest or fuel reduction. This growth in combination with dead and dying of existing trees is rapidly increasing fuel loads each year.

Our forests are capable of paying for their own hospitalization and recovery of health if allowed to do so. Taxpayers can no longer afford fire fighting costs let alone forest restoration to say nothing of investing in fire prevention measures. As a result the forest service is resorting to 'prescribed burning, with serious risk of starting more fires and increasingly are applying a "just let it burn policy". Both are hugely wasteful of forest material which should be considered in all its forms as profitably useful natural resource. The technology for biomass cogeneration is available and proven through years of use in European countries where trees are even grown as a crop. No more expensive, time-consuming research needed. Biomass can produce electricity at the point of use with reduced need for extensive transmission lines

In a country so concerned about our environment we should be highly sensitive to the damage done by forest fires. Wildlife including endangered species and old growth are incinerated basically through clear cutting by burning. Air and water pollution threatens the health of all living things from fish to humans. Watersheds are lost as top soil is sterilized and forms massive mud slides.

As with all alternative energy production, capital investment funding is needed possibly with federal funding. However, forests being a renewable natural resource, they are capable of financing their own restoration. A select number of trees can be used for lumber, but the bulk of the material would likely be in the form of dead and dying timber, brush and undergrowth normally considered waste and burned in slash piles. A biomass plant operates cleanly, productively and profitably, while also restoring forest health and safety and vastly reducing the currently ever-increasing fire fighting costs.

It would behoove our legislators and our Governor to seriously consider this opportunity to produce energy feasibly while at the same time preserving our forests and relieving the tax burden on citizens. I am in support of any legislation that could achieve these ends, possibly redirecting funding currently earmarked for other types of alternative energy production.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Clarice Ryan".

Clarice Ryan  
253 Pine Needle Lane  
Bigfork, Montana 59911  
406/837-6929

# BIOMASS AS AN ALTERNATIVE ENERGY SOURCE

By Clarice Ryan

We need to comparatively analyze practicality and benefits as related to alternative energy sources. Consideration needs to be given to the initial capital investment (private vs. federal) and the pay-back time for each alternative. Factors above and beyond comparative costs should enter into the equation when seeking alternative sources for power generation.

Forest Biomass co-generation provides many benefits in addition to a being a practical source of power as well as heat, which can be applied to a variety of manufacturing processes. Following are factors for consideration:

1. We have an over-abundance of fuels in our fire-prone forests which are a natural source of energy and heat. There is no need to tie up valuable farm land to produce biomass fuels.
2. Our federal forests have become a liability rather than a natural resource asset. The current fuel load in the forests has become an expense no longer affordable to state and national taxpayers. Annually more and more attention is given to budgeting for safe fire-fighting. Much time is applied to determining who is responsible and who should pay. Little money is left for administering fire salvage, forest restoration or traditional forest management, let alone fire prevention measures. The savings which could be achieved through fuel reduction measures for fire prevention should be factored into the equation when comparing forest biomass against other energy sources.
3. Removal of these fuels, in the interests of fire protection, can and should be performed in a productive and "profitable" manner. The forests themselves are capable of financing their own treatment and restoration by maximizing the usefulness of all wood product removed. Biomass power generation pays for proper thinning which selectively provides some trees for traditional product uses. Small diameter trees, brush and other normally burned in slash piles now become useful, valuable product.
4. Wildfires damage the environment and are contrary to lowering CO2 levels deemed necessary in the current "Global Warming" theory.
  - Heavy loading of the air with heat and CO2, compounds hazardous to health, and smoke offensive to residents and tourists.
  - Water pollution from by-products of combustion, and from run-off of damaged watersheds including extensive mud-slides and soil loss.
5. Burning in power generation plants under scientifically controlled conditions controls emission of hazardous by-products into the air. Emission levels have met the strict standards of Environmental Protection Agencies throughout the country.

6. Plant life in healthy forests including trees, bushes and grass consume CO<sub>2</sub> and convert it into cellulose while releasing O<sub>2</sub>. The burning of mountainsides not only produces vast amounts of CO<sub>2</sub>, but leaves behind slopes denuded of foliage for decades. The same balance of species and sizes of trees will likely not be achieved in our lifetime, if ever.

7. Biomass power generation plants can be located very close to point of use, eliminating long transmission lines such as are necessary for wind farms located remote from human populations, and provided with power lines from each wind machine.

8. Biomass fuel input can fluctuate depending upon demand level. Not so, with wind levels, nor can the electricity so produced be stored except with batteries. Industrially it constant power is dependent upon other sources of energy which are controllable and can compensate for periods of wind energy shortage. Biomass can be stored and fed into the generator as needed.

9. Much of our wildlife including those endangered, will be gone from these regions as well as prized old growth trees. Lack of funding is forcing the Forest Service into prescribed burns which, with present fuel levels, are virtually uncontrollable, "Just let it burn" policy is increasingly applied to rapidly escalating fires. This is basically clear cutting by burning, far more destructive and vastly more extensive.

10.. Wind farms require as much as 85 times more land area than conventional gas-fired power plants. In California one gas-fired plant generates more electricity in a year than all of the 13,000 state wind turbines. The plant is on 15 acres of land as compared to over 100,000 acres of wind machines providing intermittent, insufficient energy needing back-up energy from another source.

11. The estimated life of a wind machine is 20-30 years. Should the decision ever be made that they are not cost effective and need to be disposed of, decommission costs must be addressed. To support each 300 ft or higher wind machine, many tons of concrete and steel must be submerged in the ground, difficult and expensive to remove. Value of the land for other purposes is now very limited. They are usually on high ridges to catch the wind but unappealing to the eye.

Clarice Ryan  
253 Pine Needle Lane  
Bigfork, Montana 59911  
406-837-6929